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FORTY-SECOND ANNUAL REPORT

OF THE

Wellington College
NATURAL SCIENCE SOCIETY.

1911.



HERIUM FILII

“Τὰ γὰρ ἀόρατα αὐτοῦ ἀπὸ κτίσεως κόσμου τοῖς ποιήμασι
νοούμενα καθορᾶται, ἥ τε αἰδὸς αὐτοῦ δύναμις καὶ Θεϊότης.”
Ἐπιστολὴ πρὸς Ῥωμαίους, I, 20.

WELLINGTON COLLEGE
THOMAS HUNT.

1912.



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THOMAS HUNT.

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Contents.

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RULES	- - - - -	5
LIST OF THE SOCIETY	- - - - -	9
SOCIETIES TO WHOM THE REPORT IS SENT	- -	11
TREASURER'S ACCOUNTS	- - - - -	12
MINUTES OF OPEN MEETINGS	- - - - -	13
MINUTES OF PRIVATE BUSINESS AND COMMITTEE MEETINGS		25
PRIZES	- - - - -	27
METEOROLOGICAL REPORT	- - - - -	31
PHOTOGRAPHIC SECTION ACCOUNTS	- - - - -	43
THE MUSEUM	- - - - -	44

RULES.

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1. That this Society be called the "WELLINGTON COLLEGE NATURAL SCIENCE SOCIETY.

2. That the Society consist of Honorary Members, Corresponding Members, Members and Associates: the number of Members being limited to Fifteen.

3. That all Members of the School be eligible as Associates and that Members be chosen by the Committee from the Associates who are of at least one term's standing, and in the Upper School.

4. That Associates be proposed by a Member, Honorary Member, or Associate, seconded by one of the Committee and elected by the Members: their names with those of the Proposer and Seconder, having previously been entered in the Candidate Book, to be kept by the President.

5. That additional Members and Associates may be elected if the candidates have special qualifications, but that the number of Members thus elected do not exceed five.

6. That additional Members, elected by the provisions of Rule 5, need not be in the Upper School.

7. That the Society's Officers consist of a President, Vice-Presidents, Secretary and Treasurer.

8. That the Officers of the Society and of the Sections with the addition of two Members, who shall be elected at the first P.B.M. of every term, do form a Committee of management, and that in Meetings of the Committee, five be a quorum.

9. That the Secretary, and Treasurer, be elected annually at the last meeting of the Midsummer Term.

10. That the President and Vice-Presidents be elected from Honorary Members, and that a President on retiring become a Vice-President without election.

11. That the President or one of the Vice-Presidents take the chair at all Meetings, but that the Chairman have no vote except in cases of equality.

12. That the Secretary keep the Minutes of the Society's proceedings: a list of the existing Society, with the names and addresses, as far as possible, of all Honorary and Corresponding Members: and a list of all Benefactors of the Society; and that he produce the Minutes at the last Meeting in each term.

13. That the Treasurer look after the property of the Society, collect subscriptions, and pay debts: producing his accounts whenever called upon by the President to do so.

14. That in the absence of any officer, the Committee appoint a Deputy.

15. That Honorary Members and Corresponding Members have the privileges of Members.

16. That Honorary Members pay a subscription of 1s. 6d. a term for ten years: or by payment of one guinea compound for future subscriptions.

17. That Members or Associates, on leaving the school, are entitled to become Corresponding Members. Other old Wellingtonians are eligible for election as Corresponding Members. Corresponding Members pay in advance a subscription of 6s., and receive in return the Society's Report for

four years from the date of subscription ; or by payment of one guinea compound for future subscriptions. It shall also be in the power of the Committee to elect as Corresponding Members, without any subscription, persons who have lectured before the Society, and other benefactors.

18. The Members and Associates pay a subscription of 1s. a term. No one may use the privileges of a Member or Associate until he has paid his subscription for the term.

19. That at every P.B.M. the list of Members and Associates who have not paid their subscriptions be read out by the President, and that at the last meeting of every term, those who have not yet paid be formally ejected by a vote of the Society. The reading of names may be dispensed with at the President's discretion.

20. That Members may speak and vote at all meetings of the Society ; may read papers, with the leave of the President ; and receive a copy of the Society's Report.

21. The Associates may speak at all Meetings ; and may read papers with the leave of the President.

22. That Members and Associates provide with tickets the visitors whom they introduce at any Meeting, and that no visitors, except those who accompany the Honorary Members, be admitted to any Meeting of the Society without such ticket ; but in special cases the Committee be empowered to issue extra tickets.

N.B.—This rule is only to be enforced when the President thinks fit.

23. That Prefects may attend all Public Meetings without tickets.

24. That any Member or Associate may be suspended or expelled from the Society by a vote of two-thirds of the Members present, if he from any misdemeanour or want of energy, appear to deserve such suspension or expulsion.

25. That meetings be ordinarily held once a fortnight, but that the Secretary be empowered to call Extraordinary Meetings when necessary.

26. That visitors may speak and read papers at all Public Meetings, with the leave of the President.

27. That all objects intended for exhibition at any of the Society's Meetings be submitted to the President at least two days before, and that they be accompanied on exhibition with a written description; further, that all exhibitions are to be made at the conclusion of the Paper or Lecture.

28. That the Editing Committee consist of the President, the Secretary, and one Member or Associate to be elected by the Society.

29. That a certain number of Officers be told off to collect the exhibitions.

30. That no change be made in these rules unless proposed by a Member or Honorary Member, and carried by a majority of the votes of the Members present at a subsequent Meeting.

31. That the Sanction of the President be requisite for all motions relating to the expenditure of the Society.

32. That there be a Photographic Section, and an Arts Section, of the Society.

33. That the Officers of each Section consist of a Director and of a Secretary, who shall also be Treasurer of the Section.

34. That the Directors of the Sections be elected from the Honorary Members.

35. That each Section have the right of electing its own Officers and of making and altering its own bye-laws, provided that nothing is enacted which conflicts with the rules of the Society.

36. That the funds of the Society be chargeable with debts incurred by the Photographic Section to an amount not exceeding in any one year the sum of one shilling per term for each Member of the Section.

List of the Society during the past year.

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G. E. BLUNDELL, Esq.

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Those Members and Associates whose names are marked *p* are members also of the Photographic Section.

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 O. P. PALMER

* Left Lent Term, 1911.

† Left Easter Term, 1911.

‡ Left Michaelmas Term, 1911.

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- *CHRIST'S HOSPITAL N.H.S.
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	£	s.	d.
Balance in hand ...	24	11	1
Subscriptions:			
Lent Term—Honorary Members ...	7	6	
Members and Associates	6	10	0
Easter Term—Honorary Members...	4	6	
Members and Associates	4	14	0
Michaelmas Term—Hon. Members	4	6	
Members and Associates	6	14	0
Sale of Report ...	9	6	8
	£52	12	3

Examined and found correct,

S. A. SAUNDER.

December 18th, 1911.

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	£	s.	d.
Stamps ...	...	...	1 0 0
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F. S. W. RAIKES, *Treasurer.*

MINUTES OF OPEN MEETINGS.

Saturday, February 11th.

H. W. MONCKTON, Esq., F.L.S., F.G.S., gave a lecture on "Gotland, an island in the Baltic."

The lecturer began with an explanation of the position and extent of the island of Gotland, which is about the size of the county of Stafford and is situated off the East coast of Sweden about midway between Stockholm and the southern point of the peninsula.

The geological record, which consists only of strata of the Silurian, Devonian and Glacial ages is an exceptionally interesting one. Some of the deposits are especially attractive to the naturalist in that there is an abundance of fossils, but few collectors have visited the island. Specially remarkable in this respect is a coral-reef of Silurian age, and it is curious to notice how nearly allied the species are to those which may be found in the corresponding strata in England.

A large gap now occurs in the geological sequence, and we find ourselves among strata of Glacial age. During this period Gotland was under the sea, and above it floated from North-West to South-East great masses of ice, making the scars on the rocky bottom which are now called glacial striations. Soon after this the Baltic became a freshwater lake, as is proved by the nature of the organic remains; and it was about this period that Palæolithic man first made his appearance in this part of the world. In course of time the Baltic assumed its present form and its waters became brackish, this change being simultaneous with the advent of Neolithic man.

The lecturer then passed from geological to historical times. The Bronze Age began in Gotland about the year 1800 B.C., yielding some thirteen centuries afterwards to the Iron Age, which latter continued there for almost fifteen hundred years, at the end of which the Vikings rose into eminence.

A curious phenomenon occurred probably at some time during the Iron Age. The whole island rose, so that the ancient cliffs were lifted high and dry out of the sea, forming a second coastline some distance from their foot. There is thus an old cliff running across the island, and through its chief town, Wisby.

Before passing on to a description of the capital, the lecturer shewed a restoration of a Viking boat, and slides of coins of Canute and of Ethelred the Unready, found in Gotland, which showed that the island was once an important commercial centre.

The oldest parts of Wisby date from the days of Stephen, and the wall which surrounds the town was built late in the thirteenth century. The city seems to have had a past more glorious than its present condition, a conjecture which is confirmed by the number and beauty of the old churches and ruins, some of which possess characteristic peculiarities.

A vote of thanks to the lecturer was proposed by Mr. Hagreen.

Saturday, February 25th.

W. K. MARRIOTT, Esq., F.R. Hist. Soc., gave a lecture on "The Trinidad Asphalt Lake."

The "Pitch Lake" was so named by Sir Walter Raleigh who first discovered it and used its material for pitching his ships. It is situated in the south-west part of the island of Trinidad, just off the coast of Venezuela, about half a mile from the sea; it covers an area of 127 acres with a circumference of three miles, and is circular in shape. The depth of the deposit is not known. The underground forces cause the pitch to rise in huge mushroom like masses between which the rain water collects and forms pools. Round the outside the asphalt is hard and will carry traffic; but in places, especially near the centre it is so soft that a man trying to stand on it will sink in and, if not speedily rescued, would be engulfed. The crude asphalt is dug from the surface and, although several hundred tons may be removed in a single day, within thirty-six hours the excavations are filled by the pressure from below. The asphalt thus obtained is thrown into iron skips which run on tram lines laid on the surface of the lake, these carry it to the margin where it is transferred to an aerial railway, transported to the pier and tipped into the holds of vessels alongside. Some 300 or 400 tons a day are dealt with in this way. The softer parts of the lake constantly give off gas consisting principally of carbon dioxide and sulphuretted hydrogen, the asphalt itself is honeycombed with gas cavities and continues to evolve gas for some time after its removal from the lake. The industry is in the hands of the New Trinidad Asphalt Company who pay to the Government a royalty with a minimum of £10,000 per ann. The original concession was for twenty-one years, It has recently been extended to 1930.

The crude asphalt is always shipped in bulk and can only be handled with advantage by those who have facilities for boiling or refining it. For those who want it in smaller quantities the Company boil the crude material so as to drive off the water and then run the residue or "Epuré Trinidad Lake Asphalt" into old cement or flour barrels. About a ton and a half of the Crude makes a ton of the Epuré. The Epuré contains over 55 per cent of Bitumen. It has been estimated that the lake contains something over three million tons of Asphalt; but in 1908, although 1,885,000 tons had been removed in the previous thirty-five years, it showed very little sign of depletion.

A vote a thanks to the lecturer was proposed by Mr. Hagreen.

Saturday, March 11th.

W. H. WAGSTAFF, Esq., gave a lecture on "Optical Illusions."

Our senses frequently lead us to wrong conclusions, but the cause of the mistake generally lies in the deductions that the brain makes from the messages it receives. If a sensation is usually due to a certain cause there is a tendency to assume that it is always due to that cause. Thus when, out of doors, we see the reflection of trees and other objects from the surface of the ground, we know that such reflections are generally produced by water. But the air may sometimes get arranged in layers of varying density in such a way as to reflect rays of light that pass through it, and then we get a mirage; it is very hard to persuade oneself when a mirage is first seen that the reflection does not betoken the presence of water. There are a large number of illusions which were studied by Zöllner and are generally called Zöllner's figures. The typical figure is produced by ruling three or four parallel straight lines at equal distances and then ruling across these a number of shorter lines inclined at angles of about 30° to the original lines, but so that those which cross any one of the longer lines are inclined in the opposite direction to those which cross the next. The original lines then appear to be strongly inclined to one another. Errors in estimating the size of an object are frequently due to an error in judging its distance; it is on this account that the sun and moon look so much bigger when near the horizon than they do when high in the sky; we know the horizon is a long way off and that affects our estimate of the distance of the sun or moon. Our estimates of size and colour are also frequently affected by surrounding objects. Two figures of the same size may be so placed, close

to one another, that one appears decidedly larger than the other; this is generally effected when the shorter lines of one figure are contiguous to the longer lines of the other. Estimates of brightness are affected in the same way: if a uniformly illuminated surface has a brighter surface on one side and a darker one on the other, that part which is next to the bright surface will appear darker than the other. Other illusions may be produced by fatigue of the retina; if we gaze steadily for a minute at a brightly illuminated object and then look at a uniform but not too bright a surface we see an image of the original object in complementary colours, what was red now appears green, what was dark now appears bright. A number of other illusions were described and illustrated by means of diagrams.

A vote of thanks to the lecturer was proposed by the Master.

Saturday, March 18th.

A. W. ANDREWS, ESQ., F.R.G.S., gave a lecture on "The Cliff Scenery of the South-West Coast of England, including South Wales."

The lecturer began by impressing on his audience the futility for his purpose of any other means of locomotion than one's own legs—indeed one must for the time become a tramp with a knapsack.

He then showed maps illustrating the geology and geography of the district about which he purposed speaking. This included the coast of Devon and Cornwall and part of South Wales, beginning at Start Point in Devonshire. At Falmouth there is a peculiar sheet of water cut off from the sea by a deposit of the tide. The Serpentine rocks of this district, which are remarkable for their ruggedness, form numerous ridges and islands.

Some excellent slides then followed of a submerged river valley, along which the sea runs many miles inland. Beyond this are fine granite cliffs, with huge weathered blocks, forming the giant peninsula of St. Michael's Mount. Land's End, usually supposed to be so rough and wild, is really much less so than the coast further north—as an illustration of this the lecturer shewed a photograph of gaunt Cape Cornwall.

Mr. Andrews then passed up on to the Moors, which are covered with bracken and furze. Every here and there is placed a white post for the guidance of coastguardsmen. One slide shewed an ancient tin-mine which must have been worked for centuries. At some of these "mines" we find no more than a wheelbarrow and a couple of labourers. The granite

blocks on the moors are weathered to the most fantastic forms. Some of them are hollowed out into basins which may have been used by the Druids for sacrificial purposes. After shewing many more slides, among which one of Zenna, an almost deserted village on the moors, and one of a remarkable junction of slate and granite on the coast were specially noticeable, the lecturer passed on to the coast of South Wales, which is especially interesting in limestone districts from the occurrence of many caves. In Pembroke the limestone strata become vertical, and a remarkable junction between them and the sandstone strata was well shewn by an excellent slide. The sandstone is rather friable, and consequently a great pillar of it not far from Milford Haven forms a difficult climb.

The lecture closed with some pictures of Fishguard, St. David's and Ramsay Island, which last is specially remarkable for its lone bleakness.

A vote of thanks to the lecturer was proposed by Mr. Brabant.

Saturday, May 20th.

PROFESSOR F. KEEBLE, D.Sc., gave a lecture on "Scenes from Tropical Life."

The lecturer began by pointing out the variety of physical features to be found in the zone commonly known as the Tropics. On this account he limited himself to the East Indies, and more particularly to Borneo.

He next corrected by means of the most explicit graphs and tables, the erroneous ideas held by the majority of those who live in temperate climes as to the temperatures prevalent in the tropics. It appears that the lowest temperature of the year in many tropical districts is very little higher than that of Cambridge at midsummer. But the important point is that the temperature is so much more equable than in England, so that the heat, though somewhat great, does not make itself so apparent. Another feature is the abundant rainfall, which greatly alleviates the effects of too high a temperature. Although the rainfall is so great, it does not in Borneo interfere with man's engagements as it does in this country. It always comes at exactly the same time of day—about three o'clock in the afternoon—and always takes the same time to fall. Also in an equatorial shower, a prodigiously great amount of water falls in a very short time, so that the fine weather is of comparatively long duration.

The lecturer then shewed pictures of some of the tropical plants. They are for the most part very frail and soft, owing

chiefly to the speed with which they grow. Though the bamboo is to a certain extent an exception to the rule, in that its stems are tough and strong, it is by no means an exception as regards its speed of growth. The lecturer told an interesting anecdote in proof of this; he hung up his hat on the top of a growing bamboo sprout one morning and forgot to take it away in the evening. The next day the sprout had lifted it far out of reach.

The lecture closed with many excellent slides of wonderful tropical plants, including a sensitive plant, a palm which grows for nearly a century, flowers once, and then dies, and lastly a mangrove swamp.

A vote of thanks to the lecturer was proposed by Mr. Armstrong.

Saturday, June 10th.

S. A. SAUNDER, ESQ., gave a lecture on "Optical Glass."

It is very commonly supposed that the only requisites for optical glass are that it should be free from bubbles and perfectly clear. Glass may satisfy both these conditions and be optically worthless. The great difficulty is to obtain glass which is homogeneous, it must be free from striæ and there must be no want of uniformity in the mixture of the ingredients. After Dollond had discovered that it was possible to make an achromatic object glass by combining a crown glass convex lens with a concave lens of flint glass it was for many years impossible to make lenses of more than three or four inches diameter because suitable discs of flint glass could not be obtained. A Swiss mechanic, named Guinand, who had for many years devoted himself to the problem at length succeeded in 1779 in producing satisfactory discs. The important feature of his method, which was kept secret for many years, was the introduction of a stirring rod, made of fire clay, into the crucible in which the glass was melted the stirring being continued until the mixture became so thick that it could hardly be moved. Guinand was induced to spend ten years in the Optical Institute at Munich and here he imparted his secret to Fraunhofer who made the Dorpat refractor of 9.9 inches aperture. After Fraunhofer's death the works at Munich were carried on by Merz and Mahler who made telescopes of 15 inches aperture for Pulkovo and for Harvard. Guinand returned to Switzerland after he left Munich and introduced further improvements into the manufacture of glass. He was succeeded by his son Henry who moved to Choisy-le-Roi near Paris in 1832. In 1848, Monsieur Bontemps, one of the directors of the works at

Choisy-le-Roi, had to leave France for political reasons. He came to England and was induced to join the firm of Messrs. Chance at Birmingham, who thus became possessed of Guinand's secret. For many years after this Messrs. Chance were the most successful makers of optical glass in the world; they made the discs for the Newall 25-inch, the Washington 26-inch and one of the discs for the Pulkovo 30-inch telescopes. Messrs. Feil had succeeded to the management of the works at Choisy-le-Roi and under their direction, or that of M. Mantois who succeeded them, were made the other disc for the Pulkovo 30-inch and those for the Lick 36-inch, the Yerkes 40-inch and the Paris 48-inch telescopes.

The effect of chemical composition upon the properties of glass had been studied by Fraunhofer, Faraday, and by Harcourt and Stokes. But although they succeeded in producing kinds of glass which gave much better achromatism than could be obtained with the older kinds none of the new glasses were able to resist the action of the atmosphere. More recently the study was taken up by Schott, who after many failures obtained results of such promise that a large laboratory was established by Messrs. Zeiss at Jena and placed under the charge of Schott and Abbe. Here a wonderful success has been attained in producing glass to meet the various needs of the Optician.

A vote of thanks to the lecturer was proposed by Mr. Hagreen.

Saturday, July 15th.

F. S. W. RAIKES read the Essay on "External Animal Parasites," for which the Pender Prize had been awarded to him.

The most interesting branch of the study of these animals is that which illustrates "Degeneration." This was the subject of the first slide, which showed a nameless parasite of the larva of the Puss Moth, which possesses nothing at all in the way of feet, and only an anterior "sucker," for nutriment and attachment. The second figure was a species of *Hypopus*, in which two pairs of legs are almost rudimentary, and the mouth is extremely simple. The third figure showed the highly developed *Gamasus Sp.*, taken from the Field Mouse, in which the legs are longer than the body, and the oval appendages are extremely complicated.

We have most of us heard the saying

"Big fleas have little fleas upon their backs, to bite 'em,

"And little fleas have lesser fleas, and so 'ad infinitum'."

But I scarcely expected to find this illustrated in Nature—however, the phenomenon does actually occur, for I took the species of *Hypopus* above referred to from a flea of the Sand Martin.

The only Parasitic Dipterous Insect I have obtained is *Melophagus ovinus*, the so-called Sheep-tick, though the term "Tick" is only correctly applied to a genus of Arachnida.

Two species of *Pediculus*, the human lice, were sent me from the Leeds Workhouse, viz: *P. vestimenti* and *P. capitis*.

Haematopinus suis, from the Sow, was sent me from Hertford, and another species of *Haematopinus* was found upon the dog.

The genus *Philopterus* was represented by specimens from the Sparrow, Gold-Crest, and Lesser black-backed Gull.

Trichodectis Sp. from the Goat was also obtained, and two species of *Liotheum*, viz.: *Liotheum pallidum*, from the fowl, and another species from the Starling. Another parasite of the fowl, which I am unable to name, was very interesting, in that the same species was found upon a Pheasant. From this fact, I argued, and was eventually shown to be correct, that the pheasant had been reared under a hen.

Fleas (*Pulex*) were taken from the Badger, Rabbit, Ferret, Man, Sand-Martin, Great Tit, and Cat (only eggs and larvæ.) For a long time, I wondered what happened to the parasites of migrating birds during their absence. I have now ascertained that they "hibernate," burying themselves about a quarter of an inch in the sand in the hole containing the bird's nest.

The "Ticks" proper, viz.: the genus *Ixodes*, were represented by specimens from the Indian Cow, Stoat, Tortoise, and Australian Cattle—the latter being the carrier of the parasite which produces the fatal and dreaded Red Water Fever.

Two species of *Sarcoptes* were shown—from the Blue Tit and the Blackbird.

There were also many species of *Gamasus*—from various beetles, bees, etc.

Mr. Bevir congratulated Raikes on the excellence of his Essay and called attention to the amount of work it had involved. He also reminded the audience that the prize had been originally founded by Pender himself, who was a contemporary of his own, to encourage the study of Natural Science, and he thought that the Essay to which they had just listened was a proof of the thoroughness with which it was fulfilling its purpose.

Saturday, October 14th.

DR. SIDNEY GILFORD gave a lecture on "Aviation."

The earliest recorded aeronauts were Dædalus and Icarus, who made themselves wings; the latter, however, flew too near to the sun, and melted the fastenings of his wings, which were made of wax, fell into the sea and was drowned.

The first writer on the subject in more modern times was Leonardo da Vinci in the XV Century. The idea of balloons was introduced in the XVII Century, and Pilâtre de Rosiers made a successful ascent in a fire balloon in 1783.

Balloons were used in warfare at the end of the XVIII century, and Gambetta escaped in one from Paris, during the famous siege of that city. Famous aeronauts of this period were Robert Holland and Charles Green.

The first dirigible balloon was Giffard's in 1852, followed by "La France," constructed by Renard and Krebs, in 1884. More recently, Santos Dumont rounded the Eiffel Tower. Then came the Zeppelin air-ship, which accomplished 600 miles in 36 hours.

The lecturer then turned to the consideration of aeroplanes, and showed how they had been developed from kites. The next stage in their evolution was the parachute. Garnerin was the first to descend successfully from a balloon in a parachute, an experiment which he frequently repeated. This parachute was umbrella shaped and subject to violent oscillations. Cocking invented a conical parachute which he thought would overcome this difficulty; but the first time he attempted to use it the parachute collapsed and he was dashed to pieces by the fall. This was followed by Dr. Miller's Aerostate, a piece of mechanism designed to support a man in the air, and worked by his own hands and feet—this was unsuccessful. Then came the "Gliders," in the hands of Lilienthal and Chanute (1906). These were soon followed by Wright's bi-plane.

There are many difficulties in guiding an aeroplane, and not the least is that of turning—there are three axes, about which an aeroplane may turn—a vertical one, and two horizontal ones—one longitudinal, and the others lateral. In turning a corner, revolution round the vertical axis is effected by the rudder; but as the outer plane is travelling faster, it will tend to rise—this is counteracted by "warping" the inner plane by means of wires. The whole manœuvre tends to stop the aeroplane, so that it sinks, turning about the horizontal lateral axis—this is counteracted by adjusting the "elevator."

Great flights have lately been accomplished by Farman, Paulhan, Latham and Blériot, who used a monoplane machine.

A vote of thanks to the lecturer was proposed by Dr. Armstrong.

Saturday, November 11th.

ALEXANDER HILL, Esq., M.D., gave a lecture on "How we come to know."

If it were desirable to give the essence of this lecture in one line, that line would be—"There is nothing in the brain but that which has reached it through the senses."

The first case considered was that of a certain American girl, Helen Keller, who was so unfortunate as to be born without the senses of taste, touch, smell or hearing, in fact without any sense at all but that of sight, and that only imperfectly developed, as she was blind in one eye. Now what could be a clearer proof of the fact that the brain ceases to work if bereft of the senses than this, that if the useful eye were covered up, the girl merely went to sleep! Thus, a being cannot apparently be conscious, except when in possession of the senses, but surely this is not much loss, for even if he did possess consciousness, we can only say that that consciousness would have to be about "nothing."

Now we may say that an individual has knowledge of very many things of which he has no evidence of the senses, but then we must take into account Language, which puts the knowledge of the Community at the service of the Individual.

The young human being is in possession of all the senses of the adult, but before they are of any real value to him they have to be trained. For instance, the image on the retina of the eye is inverted, and a baby never knows which end of an object to take hold of. But it is often the case that the mind is incapable of believing the evidence of the senses. Anyone who has watched the sun rising or setting has been led to think that the sun moves relatively very much faster at those times than at others. This is because it appears very much larger there than when higher in the sky. This is all very well, but why does it appear larger? The explanation offered by Dr. Hill was that the young mind associates horizontal distance with the horizon—very far off when compared with the ceiling, with which vertical distance is associated.

The lecturer now treated one sense—that of sight—in greater detail, choosing "sight," because to us it is the most important, although the sense of smell is very much more important to most animals. The most elementary organs of sight are the "shadow organs" of the medusæ, which are sensitive to light to a sufficient degree to warn the possessor

of the approach of any object. Among the higher forms of life, there are two sorts of eye—the complex and the simple. The former is characteristic of insects, it produces a mosaic pattern on the retina and has no focussing apparatus: this gives the individual consciousness of motion. The simple eye, as it is called, has an accurate focussing apparatus, and is moveable. This is most useful to its possessors, but it is interesting to note the adaptation of this organ to the needs of the cat. The latter has the accurate focussing apparatus, but the eye is fixed; and why? Because the cat wishes to be able to notice the slightest movement in the grass in which he hopes to catch his mouse.

A vote of thanks to the lecturer was proposed by the Master.

Saturday, December 2nd.

G. C. BINSTED, Esq. give a lecture on "Russian Communications."

The lecturer began by pointing out that whereas the British Empire was spread over the entire globe, the possessions of Russia were concentrated in a single block. Most of the coast-line of this block is frozen for a great part of the year; hence the great importance of inland communications. Another somewhat important difference between the two empires is that whereas much of the British is due to private enterprise, in Russia the contrary is the case, the Government leading the nation.

The communications may be included under the three heads of waterways, roadways and railways.

Russia, being flat, is provided with an excellent system of river navigation, though all the waterways are frozen for a part of the year, when they are used as roads. The Government has not been slow to supplement these with canals. A project has been formulated for connecting the systems of the Dneiper and the Dwina by a canal capable of carrying battle-ships. This would connect the Baltic and Black Sea divisions of the Russian fleet,—a step of great strategic importance.

The lecturer then described and illustrated a voyage down the Volga, that river being taken as typical of the waterways in general. The steamers, which burn as fuel the fluid naphtha, are much cleaner and more comfortable than is generally imagined; and the voyage, despite the comparative monotony of the scenery, draws a rich harvest of interest from its characteristic docks and the huge rafts of the lumber trade.

Mr. Binsteed next passed on to the roads, which except for a few post-routes are scarcely worthy of the name. Interesting slides illustrated the great Georgian Road through Caucasia.

The third means of communication in Russia,—the railway-system,—is owned partly by the state and partly by private companies. Many lines are run by the state at a financial loss for strategic or educational purposes. The trains are in all cases very slow, but extraordinarily cheap and comfortable. They often stop for meals at wayside stations, where hot water for tea-making is provided free of charge.

The Russian landscape is as a rule dull, the country being to a great extent covered with forest. The villages are in a very primitive state, each with its church, (usually of fine Byzantine architecture), and often also an old château.

After some remarks on the towns Mr. Binsteed concluded his most interesting lecture with a sketch of the projected strategic extensions of the Trans-Siberian Railway.

A vote of thanks to the lecturer was proposed by Mr. Rogers.

MINUTES OF PRIVATE BUSINESS AND COMMITTEE MEETINGS.

Monday, February 6th.

At a P.B.M.: The Secretary moved, in accordance with notice given, that in Rule 16 after "1s. 6d. a term" the words "for ten years" be added. This was agreed to.

The following were elected Associates: G. H. Latham, F. M. Carver, D. A. R. Young, B. H. B. Allen, C. Davis, C. A. Lupton, W. F. Scott Kerr, J. L. Hopgood, J. D. Cartwright, B. Hanbury Sparrow, I. K. Matheson, H. A. Hamilton, Hon. G. C. Rowley, T. R. G. Roberts, R. A. S. Mackenzie, R. H. C. Thomas, L. M. Combe, G. S. Amos, A. Lees, S. D. Marjoribanks, A. C. Duff, W. G. Smith, C. F. I. Bethell, C. G. R. Gardiner, T. Thomas, V. F. W. C. Bentinck, E. A. FitzGerald, R. A. Kettle, J. N. Pratt, G. B. Vaughan Hughes, C. J. Girling, G. E. W. Lushington, H. G. E. Hill Trevor, A. J. V. Harden, M. Kincaid Smith, J. Little, C. G. Hamilton, C. G. G. Allom, D. J. A. Parkes, B. S. Mould, R. F. O. Gage, D. H. S. Gilbertson, M. E. Marjoribanks, J. S. Stephen, P. L. Pryse, D. A. Stirling, H. M. R. Fairfax Lucy, J. W. Northey, J. L. W. Craig, C. R. Buckworth, T. L. M. Meares, G. V. Leather, I. P. Massy, R. F. M. Lowe, V. H. Wells.

At a Committee Meeting R. C. M. Raikes was elected a member.

Monday, May, 15th.

At a P.B.M., the following were elected Associates: R. B. L. Persse, J. C. Watson, G. M. Scrutton, G. C. M. Gardiner, J. C. M. Beresford, J. C. Tuckey, A. M. Harbord, Y. W. Swaine, W. N. Young, T. B. Tod, F. P. Lefroy, H. M. Boyd, T. W. Crewdson, K. L. Godson, J. N. Fox, A. A. Jones, I. A. H. S. Monro, W. A. Brooking, J. E. M. Skinner, P. R. Lake, R. C. Norton, R. L. Sutton, C. H. C. Burrows, D. Broadwood, L. F. C. St. Clair, N. E. T. Biscoe, V. C. Ritchie, G. C. Russell, L. W. Yule, L. A. Norris.

H. R. Lupton and G. H. Kernaghan were elected Judges for the Pender Prize.

At a Committee Meeting D. A. G. Dallas, G. Walmsley were elected members.

Monday, October 9th.

At a P.B.M. : H. R. Lupton resigned the office of Treasurer. Votes of thanks were passed to H. A. Tyler and H. R. Lupton the retiring Secretary and Treasurer respectively.

H. R. Lupton was elected Secretary and F. S. W. Raikes Treasurer.

The following were elected Associates : W. F. V. M. Milner, T. W. Williams, G. H. Lees, B. H. B. Allen, B. D. Willoughby, F. V. Scoones, N. H. W. Cartwright, L. H. F. Irving, K. W. Seton Karr, L. M. Combe, C. J. Girling, J. B. C. Capper, H. M. Wardrop, C. G. N. Turner, S. R. P. Walter, G. Lindley, C. P. Hancock, V. F. W. C. Bentinck, J. A. Herbert, F. A. Hotblack, B. F. Murray Hughes, R. F. O. Gage, F. E. H. Ferguson, J. H. W. Stevenson, R. J. Allen, C. B. Campbell Johnston, C. R. Peckitt, J. S. S. Allen, G. St. J. Coventry, A. E. Lowther, G. C. Cooper, A. R. H. P. Addington, R. H. S. Waley, R. H. Quill, H. R. J. W. Ridgway, G. V. Leather, F. P. Thompson, W. E. Loyd, J. Kipling, P. D. Luard, D. F. de R. Martin, R. H. Sewell, H. J. H. Tolcher, K. S. Wootten, S. H. Crow, R. H. E. Guild, G. C. Collier, J. C. C. Ellison, H. de la P. Holland, R. A. Lane, N. D. Wardrop, M. Savill, C. M. W. N. Hill, M. Behrens, S. A. Crum, T. C. Irvine, H. G. Hill Trevor, N. M. Agnew, A. J. Lindsay, C. H. D. King, A. C. Edmonstone, G. M. Langley, J. L. Dashwood, R. H. L. Dashwood, P. Legh, W. G. Smith, D. M. Parsons, R. S. Riach, L. H. Browning, K. A. Latter, C. P. Bayer, R. W. Bagot, G. W. Heath, T. L. Meeres, M. B. Pemberton, G. R. Norman, J. D. Campbell, W. O'S. Moloney, O. L. T. Palmer.

PRIZES.

THE PENDER PRIZE.

In 1879, an Old Wellingtonian, Henry Denison Pender, one of the original members of the Society, announced his intension of giving an Annual Prize for the best essay on some scientific subject written by a Member or Associate of the Society. The Prize was to be called the "Eve Essay Prize," in honour of our first President. He lived only long enough to give the prize for 1880, when what had seemed a most promising career was cut short by an early death.

From that time, until her death in 1890, the prize was continued by his mother, Lady Pender, who asked that the name might be changed to the "Pender Prize," in memory of her son.

From 1890 to 1895 it was given by Sir John Pender, G.C.M.G.; and on his death, which occurred in 1896, it was found that he had left a bequest in his Will permanently establishing the prize.

The following are the regulations for the competition :—

1. That the prize be called the "Pender Prize."
2. That the essays be sent anonymously to the President not later than the second Saturday in the Easter Term, with a sealed envelope containing the author's name.
3. That the prize be awarded by a Committee consisting of the President, Vice-Presidents, and two Members or Associates (to be elected by the Committee of the Society at the first meeting in the Easter Term), with power to add to their number.
4. That the Prize, which will be presented on Speech Day, must consist of scientific books or apparatus, chosen by the winner, subject to the approval of the President.

The winner may, if he choses, add to the value of the prize, but such addition must not exceed a small amount, and must receive the sanction of the President.

5. That the essay, which is expected to be the competitor's *bonâ fide* own work, may be on a subject connected with any branch of Science recognised by the Society or any other department of Science which shall receive the sanction of the President, but competitors must in all cases mention the subject chosen to the President and obtain his sanction, before sending in the essay.

6. That preference be given to essays containing accounts of original work of any kind. The authorities consulted (with references) for other statements are in all cases to be given.

In cases of equality between two essays, one on some branch of Physics, and the other on another subject, preference will be given to the former.

7. That competitors be not prohibited from writing a second essay on a subject chosen by them at a previous competition, but should they do so great importance will be attached to the work done and the advance made by them during the interval.

8. That the Examiners may, before finally awarding the prize, examine any competitor, *vivâ voce*, on the subject of his essay.

9. That the prize be open only to Members and Associates of the Society who shall have been elected not later than at the first meeting in the previous Lent Term, and who are members of the School at the date appointed for the essay to be sent in.

10. That the essay to which the prize is awarded be read by the writer before the Society during the Easter Term, on a day to be appointed by the Committee.

11. Essays should be of such a length as not to occupy more than three-quarters of an hour in delivery.

The prize for 1911 was awarded to F. S. W. Raikes for an Essay on "External Animal Parasites," of which an abstract is given on pp. 19, 20.

NATURAL HISTORY PRIZES.

I. Mr. Bevir offers a prize, value 10s., open to the Middle School for the best collection to illustrate some one branch of Natural History. For this prize all Orders of Insects may be considered as belonging to one branch.

II. The President of the N.S.S. offered a prize, value £1, open to Members and Associates of the Society, for the best collection to illustrate some one branch of Natural History (different Orders of Insects being considered as belonging to different branches). More credit was given for collections illustrating the life history of particular species, *e.g.*, larva in different stages, pupa and imago, than for collections showing only the final stage of development, *e.g.*, butterflies and moths. Each collection was to be accompanied by a note-book giving dates and localities for all the specimens, and which should

also contain notes of any original observations, whether made in the neighbourhood or elsewhere, in the particular branch of Natural History illustrated. Should the collections deserve it, a second prize, value 10s. was offered by the N.S.S.

III. One or more prizes were offered by the N.S.S. to Members and Associates for Note-Books containing accounts of original observations or of work done in any one branch of Natural History (different Orders of Insects being considered as belonging to different branches). These Note-Books should, where the subject admits of it, be accompanied by illustrative collections, but the absence of such collection would not necessarily debar a Note-Book from obtaining the prize.

For the prizes in Groups I and II the collections must have been made in the neighbourhood, by the Competitor himself, during the period September—July. Insects bred by the Competitor from eggs or larvæ captured in the neighbourhood (but not elsewhere) might be included. All insects must have been set by the Competitor himself, but assistance might be obtained in naming specimens.

Note-Books might contain notes of work done elsewhere during the holidays, as well as of work done in the neighbourhood during term time.

The same collections and Note-Books might be entered for Groups II and III, but in awarding the prizes in Group II special attention was given to the specimens, in Group III to the value of the work done and the observations recorded.

In July, 1911, the prize in Group II was awarded to D. A. G. Dallas.

In Groups I and III the prizes were not awarded.

In 1912, Mr. Bevir will give his prize as before.

Instead of the prizes in Groups II and III, one or more prizes are offered by the N.S.S. to be awarded in July. These are open to Members and Associates of the Society and will be given for Note-Books, illustrated as far as possible by collections and photographs, and containing accounts of original observations and of work done in any one branch of Natural History during the previous year.

The Collection and Photographs must be entirely the Competitor's own work; insects must have been set and microscopic slides must have been mounted by him, but assistance may be obtained in naming specimens.

Note-Books may contain an account of work done elsewhere during the holidays, as well as of work done in the neighbourhood during term time.

For this prize different Orders of Insects are considered as belonging to different branches of Natural History.

WINNERS OF THE "EVE ESSAY" PRIZE.

Date.	Winner.	Subject.
1879	C. R. Ashbee ...	The Microscope.
1880	T. L. Mackesy ...	Geological Notes.

WINNERS OF THE "PENDER" PRIZE.

1881	H. G. Lyons ...	A sketch of the rocks of Dublin.
1882	J. G. Carew-Gibson	Locomotives.
1883	T. E. Crawhall .	The Telephone and Microphone.
1884	J. S. Marriner ...	English Beetles.
1885	J. S. Marriner	British Flies.
1886	S. S. Flower ..	Reptiles.
1887	A. C. Deane ..	The Inhabitants of a drop of water.
1888	A. C. Deane ...	The structure of Insects.
1889	A. C. Deane ..	The Frog.
1890	F. H. Wolley Dod	Rooks and Crows.
1891	J. Warren ...	Toads.
1892	I. D. Ghica ..	Ants.
1893	W. Shelley ...	Bees.
1894	T. Henderson ..	The Life of a Bucks Decoy Pond throughout the year.
1895	H. C. Hayward ...	Protective Resemblances amongst English Lepidoptera.
1896	J. D. M. Parker ...	Locomotives.
1897	H. H. J. Fawcett ...	The Fertilisation of Plants.
1898	Not awarded.	
1899	H. O. O'Hagan ...	Thames Fish and their habits.
1900	G. K. Allen ...	Flint Implements.
1901	C. J. C. Street ...	The Scenery of Hampshire from a Geological point of view.
1902	W. Leith Ross ...	The Geology of part of the Coast of Aberdeenshire.
1903	Not awarded.	
1904	J. P. G. Worlledge	Glaciers and the Glaciation of a specified district in Breconshire.
1905	E. F. A. Hay ...	The Birds of the Welsh Coast.
1906	W. E. Pain ...	The Raven.
1907	L. Lawrence Smith	Crows and Rooks.
1908	A. E. Clark Kennedy	Pond Life.
	2nd Prize, A. C. Sykes	The Dipper or Water-Ouzel.
1909	H. R. Lupton ...	The Geology of the London Clay near Wellington College.
1910	F. S. W. Raikes ...	The Geology of Dundry Hill.
1911	F. S. W. Raikes ..	External Animal Parasites,

METEOROLOGICAL REPORT.

JANUARY.

Date	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.12	45.9	36.3	42.4	42.4	100	10	.03	S.W.
2	30.02	37.9	27.6	33.7	33.6	100	8	.04	N.W.
3	29.97	38.9	33.1	34.7	34.7	100	8		N.E.
4	30.12	40.0	34.3	38.9	38.9	100	10	.06	N.W.
5	30.05	39.9	34.1	35.9	35.8	100	10	.02	N.W.
6	29.78	40.1	33.5	39.9	39.1	94	10	.24	S.
7	30.13	46.3	28.2	30.4	30.3	100	0	.05	W.
8	.30	48.2	30.0	46.2	45.9	98	10	.17	S.W.
9	.30	49.1	45.5	47.7	47.7	100	10	.18	W.
10	30.52	43.7	31.3	32.9	32.3	92	0	.03	N.W.
11	29.92	44.9	32.3	41.4	40.1	89	10	.36	S.W.
12	29.54	40.4	35.5	37.6	34.6	76	10		N.E.
13	30.14	38.5	30.5	34.7	33.0	83	10		N.E.
14	.27	39.0	23.3	24.4	24.3	100	0		N.
15	.36	43.1	21.7	24.2	24.1	100	0		S.W.
16	.54	43.9	23.7	32.9	32.2	91	10		S.W.
17	.71	43.1	32.7	39.3	38.7	95	10		W.
18	.71	42.5	38.8	40.7	39.2	87	10		W.
19	.63	40.9	36.3	36.7	35.8	93	10		W.
20	.51	37.7	31.8	33.1	33.0	100	10	.02	S.W.
21	.26	37.9	32.6	37.1	37.1	100	10	.02	S.W.
22	.26	37.3	35.3	36.2	35.6	95	10	.06	E.
23	.35	38.9	34.5	35.1	35.0	100	10		N.E.
24	.37	46.4	28.5	35.7	35.3	97	0		S.W.
25	.27	48.7	35.1	43.2	41.6	87	10	.01	S.W.
26	.40	50.1	42.9	48.5	46.4	84	10		W.
27	.42	47.7	47.7	43.4	40.9	82	10		S.W.
28	.42	54.4	31.7	39.9	39.4	96	0		S.W.
29	.36	47.5	28.9	31.2	31.1	100	0		S.E.
30	.26	44.1	30.5	36.7	35.2	87	0		E.
31	30.55	36.9	26.4	31.5	28.0	61	0		E.
Total									
Mean	30.28	43.0	32.7	37.0	36.2	93	7.0	1.29	
Mean for 29 years	30.00	43.5	32.4	37.8	36.9	91	8.2	1.92	

FEBRUARY.

Date	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.65	36.9	16.1	30.1	29.2	87	0		E.
2	.65	30.9	14.8	29.1	28.8	96	10		N.
3	.51	40.1	27.3	35.1	35.0	100	10		N.
4	.51	41.4	24.7	39.9	39.4	96	6	.05	N.E.
5	.47	41.9	39.4	37.7	37.3	97	8	trace	N.E.
6	.56	38.9	33.5	34.7	34.4	97	10		N.
7	.60	39.5	30.3	34.1	34.0	100	10		W.
8	.60	37.9	26.5	38.1	37.9	98	10		N.
9	30.52	39.1	32.3	37.2	36.8	97	10		S.E.
10	29.96	44.1	26.7	36.4	36.3	100	10	.15	S.E.
11	30.05	43.9	32.1	40.1	39.7	97	10		S.W.
12	.27	45.1	26.0	33.1	32.5	94	0		S.W.
13	.43	48.1	32.3	39.7	39.2	96	8		W.
14	.48	47.4	26.5	43.4	42.9	96	10	.03	S.W.
15	.44	48.9	39.2	46.5	45.9	95	10	.04	N.
16	.28	56.9	33.3	47.1	46.9	99	10		N.E.
17	30.15	50.9	46.2	51.5	51.5	100	10	trace	N.E.
18	29.86	54.7	46.4	51.4	51.3	99	10	.05	N.W.
19	.47	48.5	40.5	40.3	40.3	100	8	trace	W.
20	.92	49.1	27.5	40.2	38.6	87	0	.03	N.W.
21	.98	51.1	33.5	43.2	42.5	94	10	.10	S.
22	.75	51.1	43.2	47.7	47.1	95	10	trace	W.
23	.43	50.9	42.2	47.1	46.2	93	10	.20	S.
24	.65	51.9	40.4	47.4	46.9	96	10	.07	S.
25	.61	53.5	41.2	50.4	49.4	93	10	.02	S.
26	29.90	48.9	41.5	44.4	43.6	94	0	.06	N.W.
27	30.00	49.9	34.6	41.1	40.9	98	10	.32	S.E.
28	29.53	51.5	40.2	49.4	49.0	96	10	.14	S.
Mean		30.15	46.2	33.5	41.3	40.8	96	8.2	Total
Mean for 29 years		29.98	45.2	32.5	44.6	37.5	89	7.7	1.26 1.73

MARCH.

Date	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.09	51.7	35.5	44.1	43.4	94	0		W.
2	.25	57.1	41.4	51.4	51.0	96	0	trace	W.
3	.37	53.9	46.7	52.1	48.3	74	10	trace	W.
4	.09	49.1	44.2	47.7	45.1	81	10	.10	W.
5	30.14	46.4	27.6	34.6	31.8	73	5		N.W.
6	29.90	45.1	29.9	39.7	38.7	92	10	.15	S.W.
7	30.09	45.1	38.2	42.1	41.2	93	10	trace	N.
8	30.09	46.3	26.4	41.7	38.4	75	10	.21	N.
9	29.47	47.9	36.3	42.4	41.7	94	10	.02	N.E.
10	30.07	48.9	26.4	46.1	41.9	71	10	.06	N.E.
11	29.78	45.7	39.2	43.3	42.1	90	10		S.W.
12	.84	45.2	30.1	38.1	37.1	92	10	.54	S.W.
13	.50	42.4	31.9	36.6	33.6	75	5	.02	N.W.
14	.64	43.9	32.5	38.1	34.1	69	8	.02	N.W.
15	.45	46.1	31.5	34.1	34.0	100	10	.05	S.
16	.55	45.1	35.1	38.9	38.7	98	10		N.E.
17	.71	46.9	27.5	43.1	39.9	77	0		N.E.
18	.75	44.4	36.5	42.4	39.3	76	10		E.
19	.80	46.7	38.4	39.5	38.4	91	10		N.E.
20	.72	52.9	38.2	46.6	43.5	77	5		E.
21	.72	55.9	35.3	45.1	44.2	93	10		E.
22	29.87	54.9	33.3	46.1	45.1	92	10	.21	E.
23	30.00	48.1	41.2	46.7	46.1	95	10		S.W.
24	.00	46.1	36.4	43.7	40.7	78	10	.01	E.
25	.00	42.2	28.3	38.1	34.4	70	10		N.E.
26	30.00	43.9	31.9	35.9	35.8	100	10	.02	N.E.
27	29.80	48.9	36.1	37.1	37.0	100	10	.12	N.E.
28	.79	57.1	34.5	48.4	48.2	100	0		E.
29	.83	49.9	39.2	44.1	43.7	97	10		E.
30	.65	50.1	38.2	42.1	42.1	100	10		N.E.
31	29.81	56.1	41.2	50.1	49.5	95	10		S.W.
Total									
Mean	29.86	48.5	35.1	42.6	40.9	87	8.2	1.53	
Mean for 29 years	29.88	49.5	33.5	42.1	40.1	84	7.4	1.86	

APRIL.

Date.	Barom. reduced	Thermometers.				Relative Humidity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	29·81	49·3	37·2	46·1	45·9	99	10	·48	N.E.
2	29·93	46·7	40·5	41·7	41·7	100	10	·32	N.E.
3	30·05	45·1	37·0	37·9	37·1	93	10		N.E.
4	·18	44·1	30·3	37·4	37·4	100	8	·12	N.E.
5	·05	35·1	28·5	31·7	31·6	100	10	·06	E.
6	·14	37·9	25·7	33·1	33·0	100	10	·02	N.E.
7	·07	43·9	27·5	36·9	34·6	81	8		N.W.
8	·22	48·7	24·5	43·5	43·4	98	10		N.E.
9	·32	47·2	35·8	41·3	40·9	97	10	trace	N.E.
10	·04	44·9	37·0	40·1	40·1	100	10		N.
11	·19	49·9	38·2	43·9	43·5	97	10		N.E.
12	·22	59·1	25·1	47·1	46·7	97	6		N.
13	·40	54·9	34·5	49·1	49·2	100	2		N.E.
14	·33	64·1	32·3	49·3	48·5	93	0		S.W.
15	30·18	66·1	32·7	59·7	57·9	89	0		S.W.
16	29·96	59·8	38·2	52·2	51·0	91	8		W.
17	·85	62·0	33·1	50·9	46·5	71	10		S.W.
18	·70	62·8	40·0	52·4	49·0	77	10	trace	S.W.
19	·50	56·2	44·7	52·4	45·7	59	7		S.W.
20	29·99	59·0	42·7	50·7	44·6	61	5		W.
21	30·37	57·2	41·5	48·7	46·6	84	10		S.W.
22	·39	64·9	44·0	56·5	48·5	55	5		S.W.
23	·12	60·6	49·0	53·4	50·9	82	10		S.W.
24	30·07	63·7	41·3	57·9	49·0	53	3		S.W.
25	29·91	57·8	41·2	51·9	47·5	72	10	·04	S.
26	·76	64·3	48·0	51·4	46·2	67	7	·16	N.W.
27	·50	57·4	41·2	51·8	51·1	94	9	·13	S.
28	·62	60·8	57·8	52·7	46·9	64	10	·34	S.W.
29	·40	54·8	40·2	48·7	44·7	73	8	·11	S.W.
30	29·54	57·5	39·7	51·0	46·9	73	5	·02	N.W.
Total									
Mean	29·99	54·5	37·6	47·4	44·9	84	7·7	1·80	
Mean for 29 years	29·89	55·7	36·8	48·1	44·7	78	7·2	1·63	

MAY.

Date.	Barom. Reduced	Thermometers.				Relative Humidity.	Cloud. 0—10	Rain. In.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%			
1	29.99	63.1	35.2	56.1	50.0	64	5		S.W.
2	.87	55.5	47.2	54.8	49.9	69	10	.21	S.
3	.83	55.5	37.8	5.38	47.9	64	8	.18	S.W.
4	29.86	58.8	39.2	52.9	46.7	62	10		S.W.
5	30.01	59.8	32.5	56.3	52.3	74	8		W.
6	.27	60.6	37.2	57.1	57.1	100	10		E.
7	.25	65.1	34.8	53.4	52.4	92	10		S.W.
8	.17	66.1	40.6	63.2	60.7	84	2		S.W.
9	30.02	70.1	34.8	64.9	64.1	95	8		N.E.
10	29.80	74.1	48.2	62.5	61.9	96	10	.46	N.E.
11	.83	72.1	47.1	60.1	58.1	88	8		N.E.
12	.79	63.8	46.2	54.9	52.3	81	10	.47	N.E.
13	.73	70.7	49.0	60.1	59.1	93	10	.25	W.
14	.62	59.4	47.8	66.3	54.5	47	10	.40	S.W.
15	.71	64.1	45.7	56.4	54.3	86	10		S.W.
16	.89	67.3	45.4	63.7	57.3	65	8		N.E.
17	29.93	69.9	45.2	66.2	58.9	62	0		N.E.
18	30.04	64.0	47.0	57.1	54.3	83	10		N.E.
19	.13	56.9	47.0	56.5	50.5	64	10		N.
20	.13	50.2	45.2	47.1	43.1	73	10		N.E.
21	.18	52.9	43.7	45.4	42.9	81	10		N.
22	.06	68.2	34.9	49.2	48.0	91	10		S.W.
23	.05	68.9	44.2	62.7	55.0	59	2		W.
24	.10	69.9	51.7	62.7	58.2	75	10		S.W.
25	30.01	71.9	47.4	68.9	57.5	48	10	1.80	S.W.
26	29.91	65.0	50.2	60.4	60.1	98	10	trace	S.W.
27	30.07	75.7	54.0	64.7	60.2	74	8		S.W.
28	.25	74.2	44.2	67.1	59.1	60	0		N.E.
29	.17	75.4	51.5	68.3	64.4	79	2		N.E.
30	30.04	73.9	46.1	69.1	64.7	76	8		N.E.
31	29.97	74.9	54.0	61.7	58.9	83	10		N.W.
Total									
Mean	29.99	65.8	44.4	59.5	55.3	76	8.0	3.77	
Mean for 29 years	29.96	60.8	42.5	54.7	50.4	74	7.0	1.83	

JUNE.

Date.	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.10	77.1	52.0	73.1	64.4	59	0		E.
2	30.14	75.9	46.4	72.7	61.9	51	0		E.
3	29.94	76.1	55.0	70.1	63.9	68	8		S.
4	30.13	78.9	49.0	71.2	66.2	74	0		N.W.
5	.33	80.1	54.6	73.4	67.6	71	0		N.
6	.43	76.9	52.0	72.9	64.4	59	0		N.
7	.47	70.9	49.8	59.1	54.5	72	0		N.
8	30.31	78.2	42.4	68.9	59.7	56	0		N.
9	29.94	74.7	48.2	67.5	62.1	71	0		N.
10	30.01	60.3	35.5	52.7	47.2	65	10		N.E.
11	30.03	68.7	36.7	60.1	53.0	61	5		S.W.
12	29.96	67.9	42.0	60.9	57.4	79	8		S.W.
13	29.88	62.8	48.4	57.3	49.5	57	5		N.
14	30.04	62.8	34.5	56.7	49.6	59	5		N.
15	.19	66.8	35.3	56.9	49.3	56	0		N.
16	30.11	69.9	47.2	62.4	55.8	63	0	.06	S.E.
17	29.79	68.1	55.4	63.3	59.1	76	10	.18	S.E.
18	.57	68.4	54.5	56.4	55.8	95	10	.12	S.W.
19	.69	62.1	53.0	57.7	57.0	94	10	.55	S.W.
20	29.89	65.8	49.3	60.1	55.6	73	8	trace	W.
21	30.09	67.0	54.0	62.1	56.0	66	8	.02	S.W.
22	29.98	62.8	52.4	58.4	56.5	87	10	trace	S.W.
23	.80	64.3	56.0	62.8	57.8	72	8	.30	S.
24	.53	64.3	52.0	54.9	53.0	86	10	.10	S.W.
25	.65	61.6	49.2	54.2	53.5	94	10	.13	S.W.
26	29.93	60.1	49.0	54.1	50.0	73	5	.13	W.
27	30.19	68.9	48.0	59.1	52.2	62	5		W.
28	.31	73.9	52.0	65.1	59.2	68	6		W.
29	30.22	66.3	56.0	63.9	58.2	68	10	.20	S.W.
30	29.81	62.0	52.0	55.2	54.3	93	10	.03	S.W.
Total									
Mean	30.02	68.8	48.7	62.1	56.8	71	5.4	1.82	
Mean for 29 years	30.04	67.9	47.6	60.1	55.6	75	7.1	2.16	

JULY.

Date	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%.	0—10	In.	
1	29.71	65.8	54.0	59.1	56.5	83	10		W.
2	29.89	64.3	49.3	59.1	52.3	62	5		N.
3	30.31	67.9	42.6	59.5	51.2	56	5		N.W.
4	.47	72.1	44.4	65.0	56.2	56	10		S.W.
5	.45	79.4	53.5	68.6	60.5	59	5		N.W.
6	.31	84.1	51.2	77.1	71.0	71	0		S.
7	.31	85.1	54.8	79.7	72.3	66	0		S.
8	.31	84.9	54.5	79.4	74.3	76	0		W.
9	.45	72.4	54.5	64.3	58.6	68	8		N.E.
10	.55	70.9	44.6	57.6	52.0	67	10		N.E.
11	.56	79.4	45.0	69.9	57.1	45	0		N.
12	.58	87.4	47.0	75.1	64.5	53	0		N.
13	.42	80.9	42.2	75.9	61.7	43	0		W.
14	.42	82.9	52.2	75.1	63.9	51	0		N.W.
15	.30	67.9	51.0	67.1	61.2	69	8		N.E.
16	30.13	79.1	44.2	66.4	66.1	98	2		N.W.
17	29.96	77.1	50.3	66.7	62.3	76	10		N.W.
18	29.82	76.1	57.0	68.1	57.1	50	8		N.E.
19	30.07	74.9	51.0	68.1	59.9	58	10		N.E.
20	.26	87.1	55.0	57.1	54.0	81	10		S.W.
21	.30	90.9	58.1	86.6	69.8	39	0		S.W.
22	.27	89.9	55.0	87.0	68.3	36	0		S.W.
23	.26	78.9	55.6	71.7	62.4	56	5		N.E.
24	30.17	81.9	56.0	74.1	63.1	52	8	.07	S.E.
25	29.99	83.4	60.1	76.1	64.1	49	5		W.
26	29.91	81.1	54.0	62.1	62.1	100	10	.15	W.
27	30.00	82.9	54.0	76.9	62.2	42	10		W.
28	.05	89.4	57.2	78.7	68.8	56	0	.30	W.
29	30.03	89.1	61.1	80.4	69.1	52	5		E.
30	29.97	75.2	56.5	67.5	63.4	77	8		S.W.
31	30.05	80.4	52.0	73.6	63.9	55	2		S.E.
Total									
Mean	30.20	79.4	52.2	70.7	62.3	61	5.0	.52	
Mean for 29 years	30.00	70.9	51.3	63.5	58.8	75	7.1	2.03	

AUGUST.

Date.	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.02	81.6	51.2	68.5	62.9	70	5	.06	S.W.
2	.21	78.4	55.3	68.5	62.6	69	5	trace	S.W.
3	.11	74.2	57.0	67.7	62.5	72	10		S.W.
4	30.08	75.3	53.7	68.4	60.9	62	2		S.W.
5	29.92	76.4	59.0	68.7	62.9	69	8	trace	S.W.
6	30.00	72.5	51.6	66.2	60.1	66	5		S.W.
7	.23	81.1	56.5	69.9	62.7	64	5		W.
8	.26	87.4	52.2	71.4	63.7	62	0		S.E.
9	.12	96.0	56.5	80.2	69.8	55	0		E.
10	.17	82.3	57.8	70.1	59.9	53	2		N.
11	.14	82.7	57.2	64.2	61.7	84	10		N.E.
12	.04	94.0	57.4	73.4	65.5	62	0		N.E.
13	.16	91.4	65.5	81.1	71.6	59	5		E.
14	.21	87.2	55.5	74.9	65.1	55	0		N.E.
15	.19	77.4	49.2	65.3	58.9	71	2		N.
16	.19	75.9	45.5	63.1	56.9	67	2		N.W.
17	.24	82.4	49.0	69.7	62.4	62	0		S.W.
18	30.06	83.1	50.5	72.5	64.6	61	5		W.
19	29.95	81.3	50.2	69.7	63.4	67	0		W.
20	.83	85.5	51.8	72.2	65.7	67	0	.04	N.E.
21	.64	71.3	62.1	64.1	63.9	99	10	.66	S.W.
22	.73	67.4	59.3	61.7	61.1	96	10	.02	N.E.
23	.90	68.9	49.0	59.3	57.1	86	10		N.E.
24	.84	69.4	52.4	65.7	60.7	73	9	.07	S.E.
25	29.88	71.8	52.5	62.9	61.1	89	8	.11	S.
26	30.03	73.3	49.0	66.9	60.7	67	7	trace	S.W.
27	30.03	73.1	62.1	65.9	64.9	94	10	trace	S.
28	29.95	65.8	57.6	62.1	61.7	98	10	.08	S.W.
29	30.04	72.9	52.9	63.9	59.8	76	5		S.W.
30	.21	71.8	51.2	62.9	59.0	98	5		S.
31	30.29	73.8	41.3	66.9	60.4	65	2		S.
Total									
Mean	30.05	78.2	54.0	68.0	62.4	72	5.0	1.04	
Mean for 29 years	29.97	70.3	50.7	62.4	58.4	77	6.8	2.18	

SEPTEMBER.

Date.	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.20	78.7	44.7	69.2	60.2	57	0		S.
2	.00	86.9	46.3	77.0	66.4	54	0		S.
3	.30	76.7	53.0	63.8	58.9	72	5		N.
4	.31	74.0	48.0	67.9	60.1	61	6	.02	S.E.
5	.23	78.8	50.1	68.8	63.7	72	0		N.W.
6	.30	86.0	45.1	79.5	72.7	68	0		S.
7	.22	90.4	47.0	75.0	73.2	90	0		S.
8	.08	92.8	46.7	80.9	68.6	49	0		N.E.
9	.00	67.0	54.5	62.7	60.4	85	10		N.W.
10	.19	75.2	45.3	64.1	58.9	71	0		S.E.
11	30.04	82.9	52.1	71.9	62.1	54	2		S.E.
12	29.98	80.8	53.0	73.1	72.7	98	10	trace	S.E.
13	30.00	62.8	57.0	58.0	57.9	100	10	.35	N.W.
14	.11	62.0	49.7	55.9	54.9	93	8		N.W.
15	.16	60.0	50.0	55.0	54.2	93	5		N.
16	.29	62.0	41.0	56.0	55.2	93	3		N.E.
17	.32	60.8	36.1	51.9	50.9	92	10		N.E.
18	.36	68.7	36.1	57.0	54.5	84	0		N.W.
19	30.10	67.4	34.3	63.0	62.1	94	5	.18	S.W.
20	29.56	64.0	55.0	61.8	60.2	90	10	.12	S.
21	.47	60.0	38.7	58.3	56.3	86	8		S.
22	.85	63.8	31.7	54.9	52.2	81	2		S.
23	.85	66.2	40.4	62.9	61.7	93	8	.12	S.
24	29.88	65.8	52.5	57.9	57.4	96	5		N.W.
25	30.02	67.0	39.2	65.1	63.1	88	8	trace	S.W.
26	.13	69.1	50.0	63.7	62.4	90	0		S.
27	.25	70.1	58.1	66.4	65.5	94	4	.07	S.
28	.25	61.0	51.0	57.2	52.6	72	8		W.
29	30.25	59.0	34.4	56.1	49.0	59	3	.19	W.
30	29.73	56.4	57.0	55.2	54.0	91	0		S.W.
Total									
Mean	30.08	70.5	46.6	63.7	60.1	81	4.3	1.05	
Mean for 29 years	30.04	65.5	47.2	58.2	55.2	82	7.0	1.76	

OCTOBER.

Date.	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.23	53.2	38.4	45.7	41.1	68	2		N.
2	30.13	52.4	28.3	47.1	42.7	71	8		N.W.
3	29.82	56.1	38.4	50.1	44.7	65	10		N.E.
4	29.89	53.9	40.0	48.5	45.4	79	10	.07	N.
5	30.01	56.9	42.2	53.1	50.5	82	10	.22	N.E.
6	30.08	57.1	45.2	53.9	51.8	85	10		E.
7	29.89	50.7	42.2	49.2	49.0	98	10	.15	N.
8	30.04	58.8	34.9	48.9	48.5	96	2		N.
9	.25	55.9	44.7	51.1	47.0	73	8		N.E.
10	.52	57.1	33.5	53.4	49.2	73	2		N.
11	.43	60.0	39.4	55.2	51.0	74	8		N.E.
12	.13	65.8	35.3	55.9	54.2	88	6		E.
13	.00	59.2	41.2	52.7	52.8	100	10		E.
14	.05	62.0	50.2	57.9	57.1	94	10		E.
15	.24	56.7	52.5	54.2	52.6	88	10	.07	E.
16	.17	54.9	51.2	52.4	51.2	91	10		E.
17	.07	59.0	51.0	54.4	52.2	84	10		E.
18	.07	63.0	42.2	51.7	51.5	98	10		N.E.
19	30.00	63.0	47.2	61.1	58.9	86	10	.19	S.E.
20	29.80	60.8	54.0	59.1	58.4	95	10	.02	W.
21	30.04	60.5	54.0	63.1	57.0	67	10	.48	S.
22	29.02	60.8	49.2	53.7	53.5	98	10	.27	S.W.
23	.64	57.1	47.5	53.7	51.2	82	10	.07	S.W.
24	.49	54.2	48.0	53.9	53.0	93	10	.94	S.
25	.29	54.9	38.2	46.9	46.1	94	8	.05	S.W.
26	.18	53.9	32.3	46.1	46.1	100	10	.03	S.
27	.07	49.5	35.4	46.4	43.1	76	10	.01	E.
28	29.71	50.7	35.7	49.1	44.1	68	8		N.E.
29	30.20	56.1	25.2	32.5	31.3	86	5	.22	N.W.
30	29.87	56.5	32.1	55.7	53.6	86	10	.20	S.W.
31	30.04	55.4	35.3	51.1	47.1	69	0	.05	W.
Total									
Mean	29.92	57.0	41.4	51.9	49.5	84	8.3	3.04	
Mean for 29 years	29.92	56.8	42.0	50.4	48.5	87	7.5	3.25	

NOVEMBER.

Date.	Barom. Reduced	Thermometers.				Relative Humidity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.17	56.1	37.4	51.4	47.1	72	0		W.
2	.00	54.3	39.5	52.1	48.8	78	10	.24	S.W.
3	30.00	54.2	37.2	51.1	49.2	86	8	.10	S.
4	29.87	57.8	48.0	52.4	50.0	82	10	.22	S.
5	.52	56.4	48.2	50.9	49.2	88	0	.11	S.W.
6	.79	54.5	36.7	42.7	40.9	86	2		S.W.
7	.89	51.1	35.5	54.1	49.5	70	0	.32	S.
8	.72	48.2	44.2	47.1	44.4	81	10	.19	S.W.
9	.49	50.4	35.5	47.1	42.1	67	10	.03	N.E.
10	.54	52.1	35.3	39.5	38.9	95	10		N.E.
11	.77	54.1	28.3	39.5	38.1	88	10	.72	S.E.
12	.30	55.3	39.2	52.7	51.8	93	10	.22	S.W.
13	29.81	53.4	42.7	44.1	42.9	90	10		S.W.
14	30.27	55.2	35.3	52.1	50.3	87	10		S.W.
15	29.75	56.9	45.4	52.1	49.2	80	10	.06	S.W.
16	.55	57.1	48.2	56.3	54.2	86	10	.35	S.W.
17	29.25	53.3	46.2	49.4	47.5	86	10	.50	S.W.
18	28.83	44.9	43.5	44.1	44.1	100	10	.47	S.E.
19	28.88	44.4	35.5	38.7	36.9	85	10	.20	W.
20	29.37	47.1	38.2	43.9	42.5	88	10		N.W.
21	.52	40.4	35.3	37.4	35.6	85	2		N.W.
22	.44	41.5	23.7	36.9	31.3	59	10		N.W.
23	.64	42.1	31.3	40.9	38.4	80	10	trace	N.E.
24	.83	42.9	37.2	40.4	38.1	81	10		N.E.
25	.92	42.5	38.3	41.2	39.1	84	10		N.E.
26	.90	40.9	28.5	32.7	31.5	86	5	trace	N.
27	.81	41.7	28.8	31.1	31.0	100	10	.11	S.E.
28	29.94	47.9	28.3	41.1	41.0	100	10	trace	S.E.
29	30.31	50.4	34.5	47.1	46.1	92	0		S.W.
30	30.31	45.1	28.3	44.1	43.9	98	10		S.
Total									
Mean	29.71	49.7	37.1	45.1	43.1	85	7.9	3.84	
Mean for 29 years	29.93	49.5	36.9	43.7	42.6	91	8.1	2.53	

DECEMBER.

Date.	Barom. Reduced	Thermometers.				Relative Humi- dity.	Cloud.	Rain.	Wind.
		Max.	Min.	Dry Bulb.	Wet Bulb.				
	In.	°	°	°	°	%	0—10	In.	
1	30.13	48.1	42.2	43.9	43.1	94	10		S.W.
2	30.03	50.9	42.4	47.1	46.9	99	10	.08	S.W.
3	29.81	52.2	45.9	50.1	49.8	98	5	.10	S.W.
4	.88	49.9	35.5	40.3	40.3	100	8	.47	S.W.
5	29.54	47.9	31.3	45.1	45.1	100	10		S.W.
6	30.02	46.9	27.6	39.1	37.7	88	10	.63	N.
7	29.50	44.4	37.4	42.5	42.1	97	10	.03	S.W.
8	.62	42.4	26.5	35.1	32.8	80	10	.40	S.W.
9	.50	46.4	34.3	40.1	38.4	86	0	.22	S.W.
10	.27	48.1	32.5	39.9	39.9	100	10	.57	S.
11	.22	48.1	41.2	46.5	42.9	74	4	trace	W.
12	.64	48.9	32.5	44.4	44.1	97	8	.05	S.
13	.40	48.1	37.2	44.1	43.7	97	8	.60	S.W.
14	.62	49.4	37.4	47.1	46.9	99	4	.55	S.
15	.31	47.9	35.2	48.1	47.8	98	10	.03	S.W.
16	.87	51.6	34.2	43.4	43.1	97	10	.10	S.W.
17	.87	52.1	43.0	51.7	50.5	92	10	.30	S.W.
18	.74	53.1	48.0	48.1	47.1	92	10	.33	S.W.
19	.74	52.2	46.1	49.1	49.1	100	10	.29	S.W.
20	.15	51.9	45.1	48.9	49.0	100	10	.57	S.W.
21	.04	45.4	38.2	45.7	44.2	86	10	.07	S.W.
22	29.73	46.5	36.3	40.1	39.9	99	10	.57	S.
23	30.02	51.1	33.5	34.3	33.8	93	5	.12	W.
24	29.58	51.3	33.3	51.2	51.2	100	10	.18	S.W.
25	.36	48.1	36.0	39.1	38.4	95	8		S.W.
26	.76	48.2	36.5	40.5	39.9	95	10	.24	W.
27	29.84	48.4	35.3	35.4	35.3	100	5	.22	N.W.
28	30.03	50.7	34.1	48.2	48.2	100	10		S.W.
29	.10	48.9	46.1	46.9	46.1	94	10		S.W.
30	.08	50.4	45.6	47.3	45.9	87	10	trace	S.W.
31	30.35	47.9	42.0	44.1	42.9	90	10		W.
Total									
Mean 29.70		48.9	37.8	44.1	43.4	94	8.5	6.72	
Mean for 29 years		44.5	33.5	39.2	38.3	91	8.2	2.60	

Total rainfall for the year, 27.68 in.

Mean for 29 years, 25.56 in.

PHOTOGRAPHIC SECTION.

1911.

BALANCE SHEET.

RECEIPTS.		EXPENDITURE.	
	£ s. d.		£ s. d.
Balance from 1910 ...	25 16 9	Lent Term—	
Lent Term—Entrance Fees	10 0	Ifould—Diaphragm for Lantern...	16 0
Subscriptions ...	18 0	Knight—Hypo ...	5 3
Summer Term—Entrance Fees	1 2 0	Summer Term—	
Subscriptions ...	2 2 0	Ifould—Dishes and Keys ..	14 0
Michaelmas Term—Entrance Fees	6 0	Knight—Hypo ...	17 6
Subscriptions ...	1 3 0	Michaelmas Term—	
		Various repairs ...	3 0
		Knight—Hypo ...	3 6
		Balance in hand	28 18 6
	<u>£31 17 9</u>		<u>£31 17 9</u>

G. E. BLUNDELL.

THE MUSEUM.

The pressure on our space which was felt last year has now become acute and plans have been prepared for an extension which will at all events give sufficient accommodation for our present needs. This now only awaits the sanction of the Governors.

The Committee of the Royal Artillery Institution, Woolwich, having decided to disperse their Natural History Collections, kindly allowed the Curator to visit their Museum and select as many as he pleased from their specimens of British Birds, The result has been a very considerable and valuable addition to our collection.

J. J. Dodgshon, Esq., presented a Grey Lag Goose; we have now specimens of all the British Geese.

Mr. T. E. Randall has again presented a large number of eggs found either in the district or at High Halstow. These include ten clutches each containing a Cuckoo's egg, a clutch of Crossbills' eggs, a Marsh Warbler's egg and many others.

G. E. Blundell, Esq., gave a Kestrel's egg found in a hollow tree in Breconshire and two Night Jar's eggs found at Wellington College.

Mrs. Sinclair gave two Green Leaf Insects, *Phyllium crucifolium*, from Ceylon.

B. G. White presented a specimen of *Mutilla europæa* found on the Wokingham road.

W. K. Marriott, Esq., F.R. Hist. Soc., presented a specimen of Trinidad Lake asphalt which he brought down to illustrate his lecture.

The Rev. A. Irving, D.Sc., presented photographs of a remarkable Sarsen found at Bishop's Stortford.

Mr. Eustace has again spent much time in arranging the Beetles and Mr. Blundell has been indefatigable in the work of classifying and labelling the Geological and Mineralogical collections, and in giving assistance to young naturalists.

MUSEUM EXPENDITURE.

							£	s.	d.
Specimens	...	...	...	...	...	...	24	13	0
Books	...	...	...	...	...	...	2	13	0
Packing and Carriage	...	...	...	...	...	...	3	0	2
Labels and Trays	...	...	...	...	..			14	10

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